

Amendments to the Claims

1. (Currently Amended) A process for making a body of a vehicle for hauling material having a front wall, a pair of sidewalls and a rear edge, the process comprising:

(a) determining heaping characteristics of material to be hauled at the vehicle's anticipated point of use, including at least angles of material repose in three dimensions, wherein the angles of material repose include front, rear and side angles;

(b) developing a three dimensional model of a load to be carried in the body on a chassis using the angles of material repose;

(c) adjusting a set of design parameters of the body until a center of gravity of the model is located proximate a desired location for a load center of gravity on the chassis and a volume of the three dimensional model is substantially similar to a desired volumetric capacity; and

(d) producing the body in accordance with the adjusted set of design parameters.

2. (Previously Presented) The process according to claim 1 wherein the set of design parameters of the body includes a position of the body floor and a position of the body sidewalls.

3. (Previously Presented) The process according to claim 2 wherein the position of the body floor includes a length of the floor.

4. (Previously Presented) The process according to claim 2 wherein the position of the body sidewalls includes a height of the sidewalls.

5. (Previously Presented) The process according to claim 4 wherein the position of the body sidewalls further includes a distance between the respective sidewalls.

6. (Previously Presented) The process according to claim 2 wherein the set of design parameters of the body further includes a position of the body front wall.

7. (Previously Presented) The process according to claim 4 further including the step of adjusting a length of the body floor and the height of the body sidewalls to provide a the

lowest practical vertical location for the center of gravity of the three dimensional volumetric model of the hauled material.

8. (Canceled)

9. (Canceled)

10. (Previously Presented) The process according to claim 1 wherein the heaping characteristics of material to be hauled at the anticipated point of use further includes a representation of an actual load.

11. (Previously Presented) The process according to claim 10 wherein the heaping characteristics of material to be hauled at the anticipated point of use includes angles of material repose and representations of corner voids present in the corners of load-carrying vehicle bodies.

12. (Previously Presented) The process according to claim 1 wherein the heaping characteristics of material to be hauled at the anticipated point of use further includes a density of the material.

13. (Previously Presented) The process according to claim 1 wherein the heaping characteristics of material to be hauled at the anticipated point of use accounts for a method used for loading material into the vehicle body.

14. (Previously Presented) The process according to claim 10 wherein developing the three dimensional model of a load to be carried in the body includes developing the three dimensional load model to account for corner voids in the vehicle body.

15. (Previously Presented) The process according to claim 14 wherein the three dimensional model is developed through a gradual incremental blending of the respective side angles of material repose to the front angle of material repose and a gradual incremental blending of the respective side angles of material repose to the rear angle of material repose.

16. (Previously Presented) The process according to claim 14 further including comparing the three dimensional load model with the representation of the actual load information and adjusting the three dimensional load model as necessary such that the three dimensional load

model substantially compares with the heaping characteristics of material to be hauled at the anticipated point of use.

17. (Previously Presented) The process according to claim 15 wherein the incremental blending of the side angles of material repose to the front and rear angles of material repose includes dividing the respective rounded corners of the three-dimensional model into equal segments, establishing a plane in each of these segments at a respective angle which allows an incremental change in the angles of material repose and extending the planes until they intersect the perimeter of the body.
18. (Previously Presented) The process according to claim 1 wherein developing the three dimensional model of a load to be carried in the body includes modeling corner voids of the hauled material into the three dimensional load model.
19. (Previously Presented) The process according to claim 1 further including adjusting the set of design parameters to provide the lowest practical vertical location for the center of gravity of the three dimensional model of the hauled material.
20. (Previously Presented) The process according to claim 1 further including adjusting the set of design parameters to allow material to be loaded into the body from the lowest practical vertical location.
21. (Previously Presented) A process for making a body of a vehicle for hauling material having a front wall, a pair of sidewalls and a rear edge, the process comprising:
  - (a) developing a three-dimensional model of a load to be carried in the body on a chassis, where the model incorporates angles of material repose in three dimensions for an actual load at an anticipated point of use and includes representations of the conical shape of an actual load;
  - (b) adjusting a set of design parameters of the body until the load model center of gravity is located proximate a desired location for a load center of gravity on a chassis of the vehicle and the volume of the three-dimensional model is substantially similar to a desired volumetric capacity of the vehicle; and
  - (c) producing the body in accordance with the adjusted set of design parameters.

22. (Previously Presented) The process according to claim 21 wherein the set of design parameters of the body includes a position of the body floor and a position of the body sidewalls.
23. (Previously Presented) The process according to claim 22 wherein the position of the body floor includes a length of the floor.
24. (Previously Presented) The process according to claim 22 wherein the position of the body sidewalls includes a height of the sidewalls.
25. (Previously Presented) The process according to claim 24 wherein the position of the body sidewalls further includes a distance between the respective sidewalls.
26. (Previously Presented) The process according to claim 22 wherein the set of design parameters of the body further includes a position of the body front wall.
27. (Canceled)
28. (Canceled)
29. (Previously Presented) The process according to claim 21 further including adjusting the set of design parameters to provide the lowest practical vertical location for the center of gravity of the three dimensional model of the hauled material.
30. (Previously Presented) The process according to claim 21 further including adjusting the set of design parameters to allow material to be loaded into the body from the lowest practical vertical location.
31. (Previously Presented) A process of making a body of a vehicle for hauling material, the process comprising:
  - (a) developing a three dimensional model of a load to be carried in the body on a chassis, wherein the model includes corner voids, a truncated peak, a volume and a center of gravity and wherein the three-dimensional load model is developed through a gradual incremental blending of respective side angles of material repose to front and rear angles of material repose with the angles of material repose being those of particular material to be hauled by the body;

(b) adjusting a set of design parameters of the body until the load model center of gravity is located proximate a desired location for a load center of gravity on a chassis of the vehicle and the volume of the three dimensional model is substantially similar to a desired volumetric capacity; and

(c) producing the body in accordance with the set of adjusted design parameters.

32. (Previously Presented) The process according to claim 31 wherein the set of design parameters of the body includes a position of the body floor and a position of the body sidewalls.

33. (Previously Presented) The process according to claim 32 wherein the position of the body floor includes a length of the floor.

34. (Previously Presented) The process according to claim 32 wherein the position of the body sidewalls includes a height of the sidewalls.

35. (Previously Presented) The process according to claim 34 wherein the position of the body sidewalls further includes a distance between the respective sidewalls.

36. (Previously Presented) The process according to claim 32 wherein the set of design parameters of the body further includes a position of the body front wall.

37. (Canceled)

38. (Previously Presented) The process according to claim 31 wherein the incremental blending of the side angles of material repose to the front and rear angles of material repose includes dividing the three-dimensional model into segments, establishing a plane in each of these segments at a respective angle which allows change in the angles of material repose through the front, sides and rear of the three dimensional model and extending the planes until they intersect the perimeter of the body.

Claims 39-51 (Canceled)

52. (Previously Presented) A process of making a body of a vehicle for hauling material having a front wall, a pair of sidewalls and a rear edge, the process comprising:

(a) collecting information describing a three-dimensional shape of a heaped load of material at an anticipated point of use for the body;

(b) developing from the collected information a three-dimensional volumetric model of a load to be carried in the body on a chassis

(c) adjusting a set of design parameters of the body until the load model center of gravity is located proximate a desired location for a load center of gravity on a chassis of the vehicle and the volume of the three-dimensional volumetric model is substantially similar to a desired volumetric capacity of the vehicle; and

(d) producing the body in accordance with the adjusted set of design parameters.

53. (Previously Presented) The process according to claim 52 wherein the set of design parameters of the body includes a position of the body floor and a position of body sidewalls.

54. (Previously Presented) The process according to claim 52 wherein the information collected from the anticipated point of use includes angles of material repose of an actual load.

55. (Previously Presented) The process according to claim 52 wherein the information collected includes a density of the load material.

56. (Previously Presented) The process according to claim 52 wherein the collected information accounts for a method used for loading material into a vehicle body.

57. (Previously Presented) The process according to claim 52 wherein developing the three-dimensional model of a load to be carried in the body includes developing a generally rounded-off conical three-dimensional load model.

58. (Previously Presented) The process according to claim 52 further including adjusting the set of design parameters to provide the lowest practical vertical location for the center of gravity of the three dimensional model of the hauled material.

59. (Currently Amended) The process according to claim 52 further including adjusting the set of design parameters to allow material to be loaded into the body from a ~~the~~ lowest practical vertical location.

60. (Previously Presented) A process of making a body of a vehicle for hauling material comprising:

(a) developing a three dimensional model of a load to be carried in the body from information describing heaping characteristics of material to be hauled at the vehicle's anticipated point of use;

(b) adjusting a set of design parameters of the body (1) until a volume of the three dimensional model is substantially similar to a desired volumetric capacity and (2) to allow material to be loaded into the body from a lowest practical vertical elevation over a floor of the body; and

(c) producing the body in accordance with the adjusted set of design parameters.

61. (Previously Presented) The process of claim 60 where the set of design parameters includes one or more of (1) a position of a floor of the body, (2) a position of sidewalls of the body (3) a length of the floor, (4) a height of the sidewalls, (5) a distance between the sidewalls and (6) a position of a front wall of the body.

62. (Previously Presented) The process of claim 60 including adjusting the set of design parameters to locate a center of gravity of material held in the body at approximately a lowest possible position for the center of gravity.

63. (Canceled)

64. (Currently Amended) A process of making a body for use with a vehicle and for holding material of particular characteristics, the process comprising:

(a) collecting data describing a three-dimensional shape of an actual heap of the material, where the shape is affected by the particular characteristics of the material and the data includes angles of repose for the heaped material;

(b) determining a set of design parameters for the body container from the collected data; and

(c) producing the body in accordance with the set of design parameters.

65. (Previously Presented) The process of claim 64 where the set of design parameters includes one or more of

- (1) a position of a floor of the body,
- (2) a position of sidewalls of the body,
- (3) a length of the floor,
- (4) a height of the sidewalls,
- (5) a distance between the sidewalls and
- (6) a position of a front wall of the body.

66. (Previously Presented) The process of claim 64 including adjusting the set of design parameters to locate a center of gravity of material held in the body at approximately a lowest possible position for the center of gravity.

67. (Previously Presented) The process of claim 64 further including adjusting the set of design parameters to allow material to be loaded into the body from a lowest practical vertical elevation over a floor of the body.

68. (Currently Amended) A process of making a body for use with a vehicle and for holding material, the process comprising:

- (a) modeling a three-dimensional load of heaped material carried in the body, where the load has front, back and opposing side angles representing angles of repose for the material, the modeling including (1) truncating a peak of the heap and (2) blending each of the side angles to the front and rear angles;
- (b) selecting a set of design parameters for the body that locates the center of gravity for the modeled load proximate a desired location and provides a volume of the modeled load that is substantially a desired volume; and
- (c) producing the body in accordance with the set of design parameters.



69. (Previously Presented) The process of claim 68 where a shape of the modeled load approximates a cone truncated at its top and along sides and a front that are in contact with sides and front of the body being modeled.
70. (Previously Presented) The process of claim 68 where the set of design parameters includes one or more of (1) a position of a floor of the body, (2) a position of sidewalls of the body (3) a length of the floor, (4) a height of the sidewalls, (5) a distance between the sidewalls and (6) a position of a front wall of the body.
71. (Previously Presented) The process of claim 68 including adjusting the set of design parameters to locate a center of gravity of material held in the body at approximately a lowest possible position for the center of gravity.
72. (Previously Presented) The process of claim 68 further including adjusting the set of design parameters to allow material to be loaded into the body from a lowest practical vertical elevation over a floor of the body.
73. (Previously Presented) A process of making a body of a haulage vehicle comprising:
- (a) collecting data describing angles of repose of heaped material in three dimensions, where the data is from a working environment for the haulage vehicle and the material is a particular material whose characteristics affect the angles of repose;
  - (b) modeling a body to hold a load of the material such that a center of gravity of the load determined from the collected data is proximate a desired location; and
  - (c) producing the body based on the modeling.
74. (Previously Presented) The process of claim 73 wherein the collected data includes information regarding a shape of an actual load carried in an existing vehicle body.
75. (Previously Presented) The process of claim 74 wherein the collected data includes information describing the heaped material's angles of repose from front, back and side walls of the body.
76. (Previously Presented) The process of claim 73 wherein the desired center of gravity is at a location approximating a lowest possible position for the center of gravity.

77. (Previously Presented) The process of claim 76 further including adjusting the height of sidewalls of the body to allow material to be loaded into the modeled body from a lowest practical vertical elevation over a floor of the body.

Claims 78 - 81 (Canceled)

82. (Previously Presented) A process of making a body of a haulage vehicle for hauling particular material comprising:

(a) collecting data describing heaping characteristics of the particular material in three dimensions by observing heaping characteristics of either (1) the particular material to be hauled or (2) different material having substantially the same heaping characteristics of the particular material;

(b) modeling in three dimensions a heaped load of the material to be carried in a body of the haulage vehicle, where the modeled heaped load includes angles of repose derived from the collected data; and

(c) producing the body to hold the heaped load of the material such that when the body is mounted on the haulage vehicle and filled with an actual heaped load of the material the centroid of the actual heaped load is located proximate a predetermined location over a chassis of the haulage vehicle.

83. (Previously Presented) The process of claim 82 above wherein the modeling of the heaped load in three dimensions includes modeling as a conical shape a section of the heaped load extending above the body, where the conical shape incorporates the angles of repose derived from the collected data.

84. (Previously Presented) The process of claim 82 wherein the angles of repose result in an asymmetrical model of the heaped load.

85. (Previously Presented) The process of claim 82 wherein the angles of repose result in a symmetrical model of the heaped load.

86. (Canceled)

87. (Previously Presented) The process of claim 1 wherein developing a three dimensional model of a load includes adjusting a heaping height of the three dimensional model to reflect heaping characteristics of material to be hauled at the anticipated point of use for the vehicle.

This listing of claims replaces all prior versions, and listings, of claims in the application.